



Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		Complete if Known			
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/810,410		
		Filing Date	March 26, 2004		
		First Named Inventor	Lakkis, Ismail		
		Group Art Unit	2634		
		Examiner Name	To Be Assigned		
Sheet	1	of	2	Attorney Docket Number	45389.00011.CIP

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
CF	AD	5,563,909		Nakazawa	10-08-1996	
CF	AE	5,675,572		Hidejima et al.	10-07-1997	
CF	AF	5,949,813		Hunsinger et al.	10-07-1999	
CF	AG	6,049,707		Buer et al.	04-11-2000	
CF	AH	6,192,068 B1		Fattouche et al.	02-20-2001	
CF	AI	6,320,897 B1		Fattouche et al.	11-20-2001	
CF	AJ	6,748,025 B1		Hickling	06-08-20004	
CF	AK	6,765,517 B1		Ali	07-20-2004	
CF	AL	RE37,802 E		Fattouche et al.	07-23-2002	

FOREIGN PATENT DOCUMENTS								
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document - MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T ²
CF	AM	BINGHAM, JOHN A.C. "Multicarrier Modulation for Data Transmission: An Idea Whose Time Has Come" IEEE Communications Magazine, May 1990, Pages 5-14.			
CF	AN	BLUM, RICK S. et al. "Improved Space – Time Coding for MIMO-OFDM Wireless Communications" IEEE Transactions on Communications, Vol. 49, No. 11, November 2001, pp. 1873-1878.			
CF	AO	CHAUNG, JUSTIN et al. "Beyond 3G: Wideband Wireless Data Access Based on OFDM and Dynamic Packet Assignment" IEEE Communications Magazine, July 2000, pages 78-87.			
CF	AP	EDFORS, OVE et al. "An introduction to orthogonal frequency-division multiplexing" September 1996, pp. 1-50			

Examiner Signature	<i>Chul H. Lee</i>	Date Considered	9/4/05
--------------------	--------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/810,410
		Filing Date	March 26, 2004
		First Named Inventor	Lakkis, Ismail
		Group Art Unit	2634
		Examiner Name	To be assigned
		Attorney Docket Number	45389.00011.CIP1
Sheet	2	of	2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ²	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ³
OF	AQ	FLEMING, ROBERT et al. "CMOS Ultra-Wideband Localizers for Networking in the Extreme, September 10, 2001, pp. 1-28.	
CF	AR	FOERSTER, JEFF et al. "Intel CFP Presentation for UWB PHY" IEEE P802.15 Working Group for Wireless Personal Area Networks, IEEE 802.15-03/109, March 03, 2003, pp. 1-53.	
CF	AS	KELLY, JOY "Multi-band OFDM Physical Layer Proposal Update" IEEE P802.15 Working Group for Wireless Personal Area Networks, IEEE 802.15-04/0122r4, March 15, 2004, pp. 1-26.	
OF	AT	LEEPER, DAVID G. "Wireless Data Blaster: Radio's oldest technology is providing a new way for portable electronics to transmit large quantities of data rapidly without wires" Scientific American, May 2002, Pages 64-69.	
OF	AU	LE MARTRET, CHRISTOPHER J. et al. "All Digital Impulse Radio with Multiuser Detection for Wireless Cellular Systems" IEEE Transactions on Communications, Vol. 50, No. 9, September 2002, pp. 1440-1450.	
OF	AV	PATTAN, BRUNO "A Brief Exposure to Ultra-Wideband Signaling" Microwave Journal, December 2003, pages 1-5.	
CF	AW	O'DONNELL, IAN et al. "An Integrated, Low-Power, Ultra-Wideband Transceiver Architecture for Low-Rate Indoor Wireless Systems" IEEE CAS Workshop on Wireless Communications and Networking, September 4-5th, 2002; Pages 1-23.	
CF	AX	VANDANAMEELE, PATRICK et al. "A Combined OFDM/SDMS Approach" IEEE Journal on Selected Areas in Communications, November 2000, pp. 1-27.	
OF	AY	WONG, CHEONG YUI et al. "Multiuser OFDM with Adaptive Subcarrier, BIT, and Power Allocation" IEEE Journal on Selected Areas in Communications, Vol. 17, No. 10, October 1999, pp. 1747-1758.	
CF	AZ	YE, ZHONG et al. "Throughput Analysis for a Packet Radio Network Using Rate Adaptive OFDM Signaling" IEEE International Conference on Communications, June 1999, pp. 1-7.	

Examiner Signature	<i>Chet W. J.</i>	Date Considered	9/14/05
--------------------	-------------------	-----------------	---------

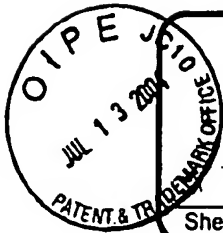
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1448A/PTO			Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	10/810,410	
			Filing Date	March 26, 2004	
			First Named Inventor	Lakkis	
			Group Art Unit	To Be Assigned	
			Examiner Name	To Be Assigned	
Sheet	1	of	1	Attorney Docket Number	45389.00011.CIP

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
CF	AA	6,185,258		Alamouti, et al.	02-06-2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials ¹	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CF	AB	ALAMOUTI, Siavash M., "A Simple Transmit Diversity Technique for Wireless Communications" <i>IEEE Journal on Select Areas in Communications</i> , Vol. 16, No. 8, October 1998.	
CF	AC	WORNELL, Gregory W. and Mitchell D. Trott, "Efficient Signal Processing Techniques for Exploiting Transmit Antenna Diversity on Fading Channels" <i>IEEE Transactions on Signal Processing</i> , Vol. 45, No. 1, January 1997.	

Examiner Signature	<i>Chet H. L.</i>	Date Considered	9/4/05
--------------------	-------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation is not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.